

REMARKS

Claims 1-17 are pending in the application. Claims 13 - 16 were withdrawn from consideration by the Examiner as being drawn to a non-elected invention.

In the outstanding Office Action, claims 1 - 12 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,296,548 to Wiswesser et al.

By this Response, no claims are amended and the prior art rejection is traversed.

REJECTION UNDER 35 U.S.C. § 103(A)

The Examiner rejected claims 1 - 12 and 17 as being unpatentable over Wiswesser et al.

Response

Applicants respectfully traverse the rejection.

To establish a prima facie case of obviousness, the Examiner must establish: (1) that some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) that the prior art references teach or suggest all the claim limitations. *Amgen, Inc. v. Chugai Pharm. Co.*, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 USPQ 494, 496 (C.C.P.A. 1970).

It is respectfully submitted that the reference fails to teach or suggest all of the claim limitations recited in the independent claims.

The present invention is aimed at improving the process control in the manufacture of semiconductor devices. According to the invention, this is achieved by providing pre-process data (layer(s) thickness and/or surface profile) about a specific site that is to be processed (e.g. applying pre-process measurements to the site); after processing the site applying measurements thereto to obtain the

respective post-process data; and using the pre-process data to analyze the post-process data on the same structure. *See* independent claims 1 and 17. These features are described all along the present application - see for example 2nd paragraph of the Summary section.

Wiswesser et al. discloses a method and apparatus for optical monitoring in chemical mechanical polishing. In column 2, lines 52 - 65, Wiswesser et al. teaches an end-point detection (i.e., measurements are applied during the processing (polishing) procedure). Moreover, no pre-process data about the site being processed is provided, but rather comparison between measured data (scan) obtained from a different substrate is used.

It is thus evident that Wiswesser et al. does not include at least the first and third features of claim 1 of the present application and "the control unit" of claim 17. A combination of features of the present invention as defined by claims 1 and 17 cannot be learned from Wiswesser et al.

On page 3 of the Office Action, the Examiner asserts official notice that "[i]t is well known in the art that uniformity of thickness of a semiconductor structure is associated with the quality of the structure." Applicants specifically point out errors in the examiner's action by referring the Examiner to page 11, lines 18 - 24 of the specification of the application. "Since the thickness of layer L₂ has not been affected by the polishing and therefore remains the same as in the pre-process state of the wafer, the so-obtained data indicative of the thickness of layer L₂ in the processed wafer is indicative of the thickness d₁' of layer material L₁ on top of layer L₂ in the post-process wafer state, and is thus indicative of the quality of polishing, namely, whether the working parameters of the polishing tool are to be corrected or not." Therefore, the noticed fact is not considered to be common knowledge or well-known in the art and Applicants respectfully traverse the Examiner's assertion. Thus, Applicants request that

the Examiner provide documentary evidence in the next Office Action if the rejection is to be maintained.

Moreover, as claims 2 - 12 depend from independent claim 1, these claims are believed to be allowable for at least similar reasons.

It is therefore submitted that the rejection under 35 U.S.C. §103(a) should be withdrawn.

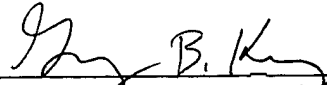
CONCLUSION

In view of the foregoing, Applicants respectfully submit that the application is now in condition for allowance. If it is believed that the application is not in condition for allowance, the Examiner is respectfully requested to contact the undersigned if it is believed that such contact will expedite the prosecution of the application.

If an Extension of Time under 37 CFR §1.136 is required and has not been separately requested, please consider this communication as including a request for such Extension of Time and as a further authorization to charge any fee for such Extension of Time, as may be required by 37 CFR §1.17, to Deposit Account No. 14-0112. Also, please charge any fee deficiency, or credit any overpayment, in connection with this matter to Deposit Account No. 14-0112.

Respectfully submitted,
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